

## RAW SEQUENCE LISTING ERROR REPORT

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See State Office ,200 Application Serial Number: Source: Date Processed by STIC:

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FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX: 3703-308-4216 PATENTIN 2018-mail help: patin21help@uspto.gov of phone 703-306-4119 (R:Wax) PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

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- 1. EFS-Bio (<a href="http://www.uspto.gov/ebc/efs/downloads/documents.htm">http://www.uspto.gov/ebc/efs/downloads/documents.htm</a>>, EFS Submission User Manual - ePAVE)
- 2. U.S. Postal Service: U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
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  - U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7th Floor, Examiner Name, Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202
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Revised 01/29/2002

## Does Not Comply Corrected Diskette Needed See Case 7



OIPE

RAW SEQUENCE LISTING DATE: 09/26/2002 PATENT APPLICATION: US/10/065,200 TIME: 07:37:29

Input Set : N:\Crf3\Datahold\EFS\10065200\FC-4-1.txt
Output Set: N:\CRF4\09262002\J065200.raw

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3 <110> APPLICANT: Wisnewski, Nancy
             Becher, Anna M.
             Jarvis, Eric
      7 <120> TITLE OF INVENTION: NOVEL FLEA ECDYSONE AND ULTRASPIRACLE NUCLEIC ACID
            MOLECULES, PROTEINS AND USES THEREOF
     10 <130> FILE REFERENCE: FC-4-1
C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/065,200
    13 <141> CURRENT FILING DATE: 2002-09-25
     15 <150> PRIOR APPLICATION NUMBER: 09/435,019
    16 <151> PRIOR FILING DATE: 1999-11-05
     18 <150> PRIOR APPLICATION NUMBER: 60/107,559
     19 <151> PRIOR FILING DATE: 1998-11-06
     21 <160> NUMBER OF SEQ ID NOS: 71
     23 <170> SOFTWARE: PatentIn Ver. 2.0
     25 <210> SEQ ID NO: 1
     26 <211> LENGTH: 446
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     35 aaatctgctg ctcccttagc gaattctgca ttacttcaga agcctgatat tttgcctgcg 180
     37 gtcatgaaat gcgacccatt acctccagaa gcaactaaag tgaaattttt gtcagacaag 240
     39 attettgetg aaaacagaat tegaaatgtt eeacetttga etgeaaatea agaatatgtg 300
     41 atcgcaagat tagtgtggta ccaagatgga tatgaacaac cttctgagga agacctacga 360
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     56 teacetggtg tacttateat tateettegt aggtetteet eagaaggttg tteatateea 120
     58 tettggtace acactaatet tgcgateaca tattettgat ttgcagteaa aggtggaaca 180
    60 tttcgaattc tgttttcagc aagaatcttg tctgacaaaa atttcacttt agttgcttct 240
    62 ggaggtaatg ggtcgcattt catgaccgca ggcaaaatat caggcttctg aagtaatgca 300
     64 gaattegeta agggageage agatttteea aeggtaeetg atattggtee gatgteettt 360
    66 teettetgtg cettetttte etttegette atggegeatt ggtttteggg aaceaegeae 420
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73 <212> TYPE: DNA

Input Set : N:\Crf3\Datahold\EFS\10065200\FC-4-1.txt
Output Set: N:\CRF4\09262002\J065200.raw

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81 cggtcatgaa atgcgaccca ttacctccag aagcaactaa agtgaaattt ttgtcagaca 180
83 agattettge tgaaaacaga attegaaatg ttecacettt gaetgeaaat caagaatatg 240
85 tgatcgcaag attagtgtgg taccaagatg gatatgaaca accttctgag gaagacctac 300
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93 <213> ORGANISM: Ctenocephalides felis
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100 atttgcagtc aaaggtggaa catttcgaat tctgttttca gcaagaatct tgtctgacaa 180
102 aaatttcact ttagttgctt ctggaggtaa tgggtcgcat ttcatgaccg caggcaaaat 240
104 atcaggette tgaaggaatg cagaattege taagggagea geagatttte caaeggtace 300
106 tgatattgcc gatgtccttt tccttctgtg ccttcttttc ctttcgcttc
109 <210> SEQ ID NO: 5
110 <211> LENGTH: 2822
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112 <213> ORGANISM: Ctenocephalides felis
114 <220> FEATURE:
115 <221> NAME/KEY: CDS
116 <222> LOCATION: (605)..(2287)
118 <400> SEQUENCE: 5
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121 atgtataatt gtatttgtga aatgaaacac atgctaccta aaaactgatt cgtatgccgc 120
123 tctatcaatc agaaatgata attaaacaat ttttttatat tgaaatagaa catattatgt 180
125 tcatatgtca ataacaaatt ttaaacattc atccaagtta cctattttat gcttttaaga 240
127 tattatttat ttatttattt tgttttgtaa aatttaaaat tttacataaa tactttctaa 300
129 ctatgaatat aaattaatat acaaaagatt ttgaaactaa gaggaaaagt aattataatc 360
131 attttaatca ttaaattata tactcaaaat gatacaatta gattttacag tcacacacat 420
133 taggtacaga gattcaatta tgaattagga qttgagaaat gctttcgagt aaaatctgca 480
135 ataagatgac tatattccta aggatgttat gtcagtcata aataaaaatc actatatttt 540
137 caatttgtgt atggtgatct tctaaaggat aaatgtgtga agtgaaatac cttgcattat 600
139 caac atg aaa cga cgt tgg tct aac aac ggt ggc ttc caa acc ttg cgg
140
         Met Lys Arg Arg Trp Ser Asn Asn Gly Gly Phe Gln Thr Leu Arg
141
143 atg ctc gaa gat gtt gca tct ggt gag gta acg tcg tct tct ggt ggc
                                                                       697
144 Met Leu Glu Asp Val Ala Ser Gly Glu Val Thr Ser Ser Ser Gly Gly
                                         25
147 gcc ctg gct gcg ttg agt ccg gct tcg tta ggt tcg ccc gag aca tat
                                                                       745
148 Ala Leu Ala Ala Leu Ser Pro Ala Ser Leu Gly Ser Pro Glu Thr Tyr
                                     40
                 35
151 gcc gag ctg gat ttg tgg gtg tac gag gaa gct ggc tta cat cca ggt
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152 Ala Glu Leu Asp Leu Trp Val Tyr Glu Glu Ala Gly Leu His Pro Gly
153
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Input Set : N:\Crf3\Datahold\EFS\10065200\FC-4-1.txt
Output Set: N:\CRF4\09262002\J065200.raw

155	tca	ggt	gtg	caa	gga	tgc	ggt	gcg	gtc	gcc	gcc	ttg	cca	tcg	atc	gcg	841
156	Ser	Gly	Val	Gln	Gly	Cys	Gly	Ala	Val	Ala	Ala	Leu	Pro	Ser	Ile	Ala	
157		65					70					75					
159	aca	cag	gtc	ccc	cta	gga	ttg	ccc	gct	atg	gac	cta	ccg	cac	acg	cct	889
160	Thr	Gln	Val	Pro	Leu	Gly	Leu	Pro	Ala	Met	Asp	Leu	Pro	His	Thr	Pro	
161	80					85					90					95	
163	cgg	agt	gac	agt	gcg	ggt	agc	atc	tca	tca	gga	cga	gaa	gac	ctg	tca	937
		_	-	_			Ser										
165	_		_		100	_				105	_	-		_	110		
167	ccg	cct	agt	tct	ttg	aac	ggc	tat	tca	gca	gat	ggc	tgc	gaa	gcg	aag	985
							Gly										
169				115			_	_	120		_	_	-	125		_	
171	aaq	qcc	aaq	aaa	qqq	ccq	gcg	ccq	cqq	caq	caq	gag	qaa	cta	tqt	ctt	1033
							Ala										
173	-		130	-	•			135	-				140		-		
175	ata	tqc	qqc	qac	cqt	qcc	tcc	qqa	tat	cat	tac	aac	qct	ctt	act	tqt	1081
		_		_	_	-	Ser						-				
177		145	4	•			150					155				-	
179	σaa	qqa	tac	aaa	gat	ttt	ttc	cqa	cqa	agt	ata	act	aaq	aat	qcc	ata	1129
	_		_				Phe	_	_	-							
181		•	-	-	-	165					170		-			175	
		ata	tac	aaq	ttt		cac	acq	tac	gaa	atq	gac	atq	tat	atq	cqa	1177
			-				His										
185	•		-	-	180	_			-	185		-		-	190	_	
	cqc	aaa	tat	caq	qaa	tat	agg	ctc	aaq	aaa	tat	ttq	act	qtc	qqa	atq	1225
	_		_	_	_	_	Arg		_		_	_	_	_		_	
189	_	•	•	195		-	_		200	•	-			205	-		
191	cqc	ccc	qaq	tgc	qtq	qtt	ccc	gaa	aac	caa	tqc	qcc	atq	aaq	cqa	aaq	1273
	_			_		-	Pro	_			_	-	_				
193	_		210	-				215			•		220	•	_	•	
195	qaa	aaq	aaq	qca	caq	aaq	gaa	aaq	qac	atc	qqa	cca	ata	tca	ggt	acc	1321
	_	_	_	_	_	_	Ğlu	_	_								
197		225	•			•	230	•	-		-	235			•		
199	qtt	qqa	aaa	tct	qct	qct	ccc	tta	qcq	aat	tct	qca	tta	ctt	caq	aaq	1369
	_				_	_	Pro					_			_	_	
201		-	•			245					250					255	
203	cct	gat	att	ttg	cct	qcq	gtc	atg	aaa	tgc	gac	cca	tta	cct	cca	gaa	1417
						_	Val	-		-	-						
205		•			260			•	-	265	•				270		
207	qca	act	aaa	ata	aaa	ttt	ttg	tca	qac	aaq	att	ctt	act	qaa	aac	aga	1465
							Leu										
209			•	275	•				280	•				285		,	
	att	cqa	aat	att	cca	cct	ttg	act	qca	aat	caa	gaa	tat	ata	atc	qca	1513
							Leu										
213		_	290					295					300				
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							Asp										
217		305		-	-		310	- 4	-			315				-	
	cta		agg	ata	atg	ata	agt	aca	cca	gct	gaa		gaa	gct	ctt	gaa	1609
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Input Set : N:\Crf3\Datahold\EFS\10065200\FC-4-1.txt
Output Set: N:\CRF4\09262002\J065200.raw

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220	Leu	Arg	Arg	Ile	Met	Ile	Ser	Thr	Pro	Ala	Glu	Asp	Glu	Ala	Leu	Glu	
221	320	_	_			325					330	_				335	
223	ttt	cgg	cat	ata	act	gaa	att	acc	ata	ctt	act	gtg	cag	ctt	ata	gtg	1657
	Phe	Arg	His	Ile		Glu	Ile	Thr	Ile		Thr	Val	Gln	Leu		Val	
225					340					345		•			350		
	_		_	_				gct							_	_	1705
	Glu	Phe	Ala	_	Gly	Leu	Pro	Ala		Thr	Lys	He	Pro		Glu	Asp	
229				355					360					365			1752
						_	_	tgt		_	_	-	_	_	_	_	1753
232	GIII	TIE	370	пеп	ьеu	пур	Ата	Cys 375	ser	ser	GIU	vai	380	Met	ьeu	Arg	
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		-				-		Val	-								1001
237	1100	385	5	•••	-1-	p	390	, 41	001	шьр	001	395	Lou				
	aat		tca	tat	act	cqt		tcc	tat	aaa	atq		ggt	atq	qca	gat	1849
		_				_	_	Ser			_	_		_	_	_	
	400	_		_		405	_		_	_	410		_			415	
243	aca	ata	gaa	gat	cta	ttg	cat	ttt	tgt	cga	cag	atg	tat	act	atg	act	1897
244	Thr	Ile	Glu	Asp	Leu	Leu	His	Phe	Cys	Arg	Gln	Met	Tyr	Thr	Met	Thr	
245					420					425					430		
	-	_					_	cta			_						1945
	Val	Asp	Asn		Glu	Tyr	Ala	Leu		Thr	Ala	Ile	Val		Phe	Ser	
249				435					440	-4-4-				445			1003
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253	ASP	Arg	450	GIA	ьеu	GIU	GIII	Ala 455	ASP	ьеи	vaı	GIU	460	TIE	GIII	261	
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							_	Cys			_		_		_		20,11
257	-1-	465					470	- 4 -	- 4 -			475	5			2	
259	gac	cct	aag	tgt	gga	ata	ttg	ttt	gcc	aaa	ctt	ctt	tct	att	ctt	act	2089
			_	_			_	Phe	_								
261	480					485					490					495	
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	Glu	Leu	Arg	Thr		Gly	Asn	Gln	Asn		Glu	Met	Cys	Phe		Leu	
265					500					505					510		
		_	_		_			cct	_			_	_			_	2185
	ьys	Leu	ьуs		Arg	гля	ьeu	Pro	_	Phe	Leu	GIU	GIU		Trp	Asp	
269	at a	202	~a+	515	a+a	aa+	aat	200	520	a > a	200	2+4	an t	525	at a	taa	2233
			_					acg Thr		_	_	_		_	-	_	2233
273	Val	1111	530	no!!	vai	110	110	535	110	лър	SCI	ricc	540	361	Val	DCI	
	gag	aat		tat	aat	aat	σaa	agt	aat	aat.	acc	agt		tct	aca	cca	2281
								Ser									
277		545		_			550			•		555	-				
279	79 atg taa agtgctcaga aaatcaacag ctcttttgca tatttgttta ctgtgtac									etg	2337						
280	Met											-		=			
281												•					
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285	5 ggcaatattt ttgaataaat aatctattga gacggtacca atggtaaact tggaaa										aaaat	2457					

Input Set : N:\Crf3\Datahold\EFS\10065200\FC-4-1.txt

Output Set: N:\CRF4\09262002\J065200.raw

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291 ttaaaaagaa atcatgtgta ataaaatcat ttgtaggccg gccatactga tttacctata 2637
293 ttaagcagaa acttettaat gtataaatat atttttgett tgeaaggtaa aacettetea 2697
295 atgcaacaat gaattatata tataaacatt gattatttta tcgttagaat ttgaattttg 2757
297 tgttgtggga gaattgtatt tggattagat aaataggctg tgaaaaataa aaaaaaaaa 2817
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303 <211> LENGTH: 560
304 <212> TYPE: PRT
305 <213> ORGANISM: Ctenocephalides felis
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311 Leu Glu Asp Val Ala Ser Gly Glu Val Thr Ser Ser Ser Gly Gly Ala
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314 Leu Ala Ala Leu Ser Pro Ala Ser Leu Gly Ser Pro Glu Thr Tyr Ala
315 35
                                 40
317 Glu Leu Asp Leu Trp Val Tyr Glu Glu Ala Gly Leu His Pro Gly Ser
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320 Gly Val Gln Gly Cys Gly Ala Val Ala Ala Leu Pro Ser Ile Ala Thr
321 65
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323 Gln Val Pro Leu Gly Leu Pro Ala Met Asp Leu Pro His Thr Pro Arg
                    85
                                         90
326 Ser Asp Ser Ala Gly Ser Ile Ser Ser Gly Arg Glu Asp Leu Ser Pro
               100
                                    105
329 Pro Ser Ser Leu Asn Gly Tyr Ser Ala Asp Gly Cys Glu Ala Lys Lys
           115
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332 Ala Lys Lys Gly Pro Ala Pro Arg Gln Glu Glu Leu Cys Leu Val
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335 Cys Gly Asp Arg Ala Ser Gly Tyr His Tyr Asn Ala Leu Thr Cys Glu
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                       150
338 Gly Cys Lys Gly Phe Phe Arg Arg Ser Val Thr Lys Asn Ala Val Tyr
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341 Val Cys Lys Phe Gly His Thr Cys Glu Met Asp Met Tyr Met Arg Arg
342
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344 Lys Cys Gln Glu Cys Arg Leu Lys Lys Cys Leu Ala Val Gly Met Arg
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                                200
347 Pro Glu Cys Val Val Pro Glu Asn Gln Cys Ala Met Lys Arg Lys Glu
                            215
350 Lys Lys Ala Gln Lys Glu Lys Asp Ile Gly Pro Ile Ser Gly Thr Val
351 225
                       230
                                            235
353 Gly Lys Ser Ala Ala Pro Leu Ala Asn Ser Ala Leu Leu Gln Lys Pro
                   245
                                        250
356 Asp Ile Leu Pro Ala Val Met Lys Cys Asp Pro Leu Pro Pro Glu Ala
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359 Thr Lys Val Lys Phe Leu Ser Asp Lys Ile Leu Ala Glu Asn Arg Ile
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362 Arg Asn Val Pro Pro Leu Thr Ala Asn Gln Glu Tyr Val Ile Ala Arg
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Input Set : N:\Crf3\Datahold\EFS\10065200\FC-4-1.txt

Output Set: N:\CRF4\09262002\J065200.raw

## Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the  $\langle 220 \rangle$  to  $\langle 223 \rangle$  fields of each sequence which presents at least one n or Xaa.

Seq#:45; N Pos. 15
Seq#:51; N Pos. 10

VARIABLE LOCATION SUMMARY

DATE: 09/26/2002 TIME: 07:37:30

PATENT APPLICATION: US/10/065,200

Input Set : N:\Crf3\Datahold\EFS\10065200\FC-4-1.txt

Output Set: N:\CRF4\09262002\J065200.raw

## Use of n's or Xaa's (NEW RULES):

Use of n's and/or Xaa's have been detected in the Sequence Listing. Use of  $\langle 220 \rangle$  to  $\langle 223 \rangle$  is MANDATORY if n's or Xaa's are present. in  $\langle 220 \rangle$  to  $\langle 223 \rangle$  section, please explain location of n or Xaa, and which residue n or Xaa represents.

Seq#:45; N Pos. 15 Seq#:51; N Pos. 10 VERIFICATION SUMMARY DATE: 09/26/2002 PATENT APPLICATION: US/10/065,200 TIME: 07:37:30

Input Set : N:\Crf3\Datahold\EFS\10065200\FC-4-1.txt

Output Set: N:\CRF4\09262002\J065200.raw

L:3536 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:51 after pos.:0

L:12 M:270 C: Current Application Number differs, Replaced Current Application Number L:2775 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:32 L:3458 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:45 L:3458 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:45 L:3458 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45 after pos.:0 L:3536 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:51 L:3536 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:51